

In the Claims:

Applicants request that the claims in the present application be amended to read as follows:

1 (currently amended). A system for treating a complex fluid, comprising:

- a) a non-laser light source for generating and transmitting substantially monochromatic light;
- b) a light emitting surface positioned relative to said non-laser light source such that at least a portion of said monochromatic light generated by said non-laser light source is transmitted therethrough;
- c) a complex fluid positioned proximate to said light emitting surface, said complex fluid including at least one component that is sensitive to a change in temperature, said complex fluid being exposed to said monochromatic light at an energy level and for a period of time effective to inactivate at least one pathogen associated with said complex fluid; and
- d) a cooling ~~fluid~~ liquid in thermal communication with said light emitting surface that is distinct from said complex fluid, said cooling ~~fluid~~ liquid being effective to prevent said complex fluid from undergoing a temperature change damaging to said sensitive component.

2 (original). A system according to claim 1, wherein said complex fluid includes first and second fluid components that are responsive to light energy, and wherein said substantially monochromatic light is effective to substantially preserve said first fluid component and to substantially excite said second fluid component.

3 (original). A system according to claim 1, wherein said complex fluid is selected from the group consisting of blood products, pharmaceuticals, injectable solutions and vaccines.

4 (original). A system according to claim 1, wherein said substantially monochromatic light has a wavelength of between 260 nm and 310 nm.

5 (original). A system according to claim 1, wherein said non-laser light source includes an excimer gas selected from the group consisting of XeI, Cl₂, XeBr, Br₂, XeCl, filtered XeBr, I₂ and XeF.

6 (original). A system according to claim 1, wherein said light emitting surface is fabricated from a material selected from group consisting of quartz, Teflon and combinations thereof.

7 (original). A system according to claim 1, wherein said complex fluid includes a photoactive compound selected from a class of photoactive compounds that includes psoralens, 8-MOP, merocyanine 540, riboflavin, methylene blue, phthalocyanines, and combinations thereof.

8 (currently amended). A system according to claim 1, wherein said cooling ~~fluid~~ liquid is water.

9 (currently amended). A system according to claim 1, wherein said non-laser light source is positioned within a housing and said cooling ~~fluid~~ liquid flows through said housing between said non-laser light source and said light emitting surface.

10 (canceled).

11 (canceled).

12 (canceled).

13 (canceled).

14 (canceled).

15 (canceled).

16 (currently amended). A system for treating complex fluids, comprising:

- a) a bounded volume of photon-producing gas for generating monochromatic light, said bounded volume positioned within and spaced from a fluid-tight housing that includes at least one light emitting surface having a light emitting surface geometry; and
- b) a treatment surface having a treatment surface geometry positioned for irradiation by said monochromatic light emitted from said housing; wherein said light emitting surface geometry substantially corresponds to said treatment surface geometry.

17 (original). A system according to claim 16, wherein said photon-producing gas is an excimer gas selected from the group consisting of XeI, Cl₂, XeBr, Br₂, XeCl, filtered XeBr, I₂ and XeF.

18 (original). A system according to claim 16, wherein said light emitting surface geometry and said treatment surface geometry are selected from the group consisting of planar geometries, annular geometries, cylindrical geometries, elliptical geometries, non-symmetrical geometries, and combinations thereof.

19 (original). A system according to claim 16, further comprising a quartz plate mounted to said fluid-tight housing, said quartz plate having inwardly and outwardly

directed faces, and wherein said inwardly directed face of said quartz plate is said light emitting surface and said outwardly directed face of said quartz plate is said treatment surface.

20 (original). A system according to claim 16, wherein a complex fluid is positioned adjacent said treatment surface for irradiation by said monochromatic light emitted from said housing.

21 (original). A system according to claim 16, wherein said complex fluid is contained within a body or limb, and said treatment surface constitutes a surface of said body or limb.

22 (canceled).

23 (canceled).

24 (canceled).

25 (canceled).

26 (canceled).

27 (canceled).

28 (canceled).

29 (canceled).

30 (canceled).

31 (canceled).

32 (canceled).